

Mathematics Problem Solving Rubric

	Emerging (1)	Developing (2)	Proficient (3-4)	Exemplary (5)
Conceptual Understanding	1. Mathematical representations of the problem were incorrect. 2. The wrong information was used in trying to solve the problem. 3. The mathematical procedures used would not lead to a correct solution. 4. Mathematical terminology was used incorrectly.	1. Choice of terms to represent the problem was inefficient or inaccurate. 2. Some, but not all of the relevant information from the problem was used. 3. The mathematical procedures used would lead to a partially correct solution. 4. Mathematical terminology was used imprecisely.	1. Choices of mathematical representations of the problem were appropriate. 2. Relevant information from the problem was used in the solution. 3. Mathematical procedures selected would lead to a correct solution. 4. Mathematical terminology was used correctly.	1. Choice of mathematical representations helped clarify the problem's meaning. 2. Hidden or implied information not readily apparent was uncovered and used in problem solving. 3. Mathematical procedures were selected that would lead to an accurate solution. 4. Mathematical terminology was used precisely.
Strategies and Reasoning	1. Strategies were not appropriate for the problem 2. The student did not seem to know where to begin; reasoning did not support work. 3. There was no apparent relationship between	1. An oversimplified approach to the problem was used. 2. Little or no explanation of strategies was offered. 3. Some representations	1. Appropriate, efficient strategies for solving the problem were used. 2. Each step of work was justified. 3. Representation(s) fit the task.	1. Innovative and insightful strategies for solving the problem were selected. 2. Proof that the solution was correct and that the approach was valid was

	<p>representations and task.</p> <p>4. There was no apparent logic to the solution.</p> <p>5. The approach to the problem would not lead to a correct answer.</p>	<p>accurately depicted aspects of the problem.</p> <p>4. Some leaps in logic were hard to follow.</p> <p>5. The process lead to a partially complete solution.</p>	<p>4. The logic of the solution was apparent.</p> <p>5. The process would lead to a complete, correct solution of the problem.</p>	<p>demonstrated.</p> <p>3. Examples and/or counterexamples were provided to support the solution.</p> <p>4. A sophisticated approach to solve the problem was used.</p>
Computation and Execution	<p>1. Errors in computation were serious enough to flaw the solution.</p> <p>2. Mathematical representations were inaccurate; information was labeled incorrectly.</p> <p>3. The solution was incorrect.</p> <p>4. No evidence was of how the student determined the answer was presented.</p>	<p>1. Minor computational errors were present.</p> <p>2. Representations were essentially correct but not accurately or completely labeled.</p> <p>3. Inefficient choice of procedures impeded success.</p> <p>4. The evidence of the solution was inconsistent or unclear.</p>	<p>1. Computations were essentially accurate.</p> <p>2. All visual representations were complete and accurate.</p> <p>3. The solution was essentially correct.</p> <p>4. Work clearly supported the solution.</p>	<p>1. All aspects of the solution were complete and accurate.</p> <p>2. Multiple representations for verifying the solution were used.</p> <p>3. Multiple ways to compute the answer were demonstrated.</p> <p>4. Work clearly supported the solution.</p>